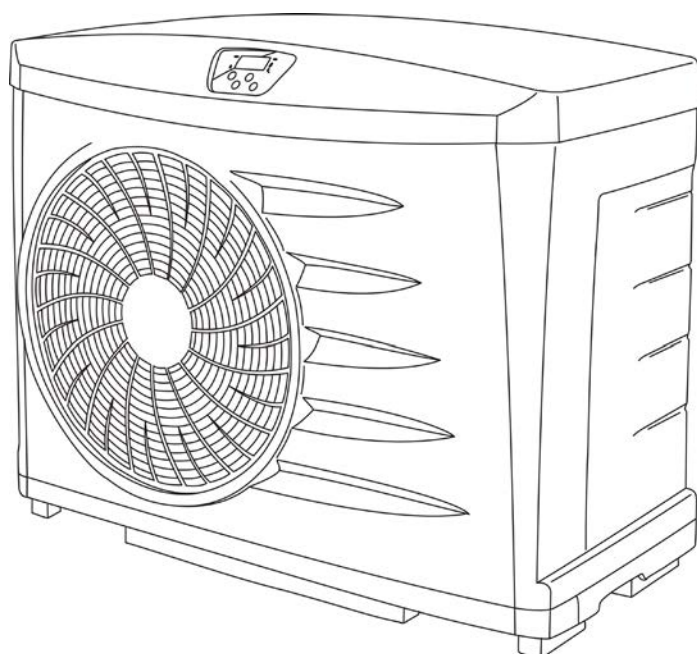


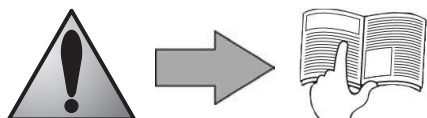
# PW 5M-7M-9M-11M




Instructions for installation and use  
English


EN

More documents on:  
[www.zodiac-poolcare.com](http://www.zodiac-poolcare.com)



- Read this notice carefully before installing, maintaining or repairing this appliance!

• The symbol  indicates important information that you must take into account to avoid the risk of damage to persons or the appliance.

• The symbol  indicates useful information as an indication.



## Warning

- As part of a continuous improvement process our products may be modified without prior notice.
- Exclusive use: the heating of pool water (must not be used for any other purpose),
- The appliance must be installed by a qualified technician, in compliance with the manufacturer's instructions and in compliance with current local standards. The installer is responsible for the installation of the appliance and compliance with local regulations in matters of installation. Under no circumstances can the manufacturer be held liable in the event that local installation standards are not respected.



- Incorrect installation may cause damage to property or serious injuries (possibly causing death),
- It is important that this appliance be handled by skilled and apt persons (physically and mentally) having received the instructions for use beforehand (by reading these instructions). All persons not meeting these criteria must not approach the appliance in order to avoid exposure to dangerous elements.
- If the appliance suffers a malfunction: do not try to repair the appliance yourself, contact your reseller,
- Before any intervention on the appliance, make sure it has been powered off and locked out.
- Before any operations check that:
  - the voltage indicated on the appliance plate corresponds to the mains voltage,
  - the socket and the power supply is suitable for use with a heat pump, and that it has a ground connection.
  - the electrical plug is adapted to the socket available.
- Eliminating or shunting any safety devices automatically voids the warranty, as does the replacement of parts using parts not originating from our warehouses,
- Keep the appliance out of the reach of children,
- Do not release R410A coolant liquid into the atmosphere. This is a fluoride greenhouse effect gas covered by the Kyoto agreement with a global warming potential (GWP) = 1975 - (see the European Community regulations on fluoride greenhouse effect gases Directive EC 842/2006).
- This heat pump is compatible with all types of water treatment.

## Contents

<b>1. Information before installing</b>	<b>3</b>
1.1 General delivery terms and conditions	3
1.2 Content	3
1.3 Technical specifications	3
<b>2. Installation</b>	<b>3</b>
2.1 Selection of the location	3
2.2 Installing the appliance	3
2.3 Hydraulic connections	4
2.4 Electric connections	4
<b>3. Use</b>	<b>5</b>
3.1 Presentation of the regulation	5
3.2 Checks before commissioning	5
3.3 Starting up the appliance	5
3.4 Checks to carry out once the appliance is running	6
3.5 Wintering	6
<b>4. Maintenance</b>	<b>6</b>
4.1 Maintenance instructions	6
4.2 Additional recommendations	6
4.3 Recycling	7
<b>5. Troubleshooting</b>	<b>7</b>
5.1 Displays	7
5.2 Appliance malfunctions	7
5.3 FAQ	8
<b>6. Registering the product</b>	<b>8</b>



Are available in the appendices at the end of these instructions:

- Electric Diagram
- Size
- Description
- EC Declaration of compliance

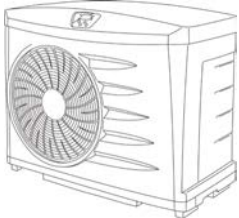

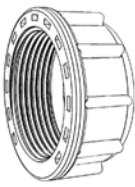


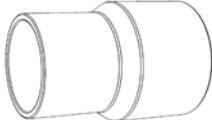
# 1. Information before installing

## 1.1 General delivery terms and conditions

All equipment, even postage and packing paid, travels at the risks and perils of the recipient. The latter must make written reserves on the transporter's delivery documents if damage during transport is discovered (confirmed by registered letter to the transporter within 48 hours).

**If the appliance has been tipped over, make written reserves to the transporter.**

## 1.2 Content

					
PW	Wintering Cap	Screw-on fitting	Gasket	Ø40 Adapter	Ø50 Adapter
x1	x2	x2	x2	x2	x2

## 1.3 Technical specifications

PW		5M	7M	9M	11M
Single phased voltage	230V-50Hz				
Input power*	kW	0.98	1.56	2	2.6
Rated input intensity*	A	4.45	7.09	9.09	11.82

\* with surrounding air temperature at 15°C and pool water at 24°C, humidity level 70%

• Operating temperatures: from 7 to 32°C air and up to 32°C water (30°C with Zodiac® Easy Connect)

# 2. Installation



**Do not lift the appliance using the casing, handle it from the base.**

## 2.1 Selection of the location



**The appliance must be installed outside and be surrounded by free space (see §2.3).**

- **the heat pump must be installed** at a minimum distance from the edge of the pool in order to avoid any projections of spray onto the appliance. This distance is determined by the electric standards applicable locally (for France: 3.5 meters).
- **the heat pump must not be installed:**
  - close to a heat source or to a source of inflammable gas,
  - close to a road with a risk of water or mud being sprayed,
  - facing strong winds,
  - with the blower facing a permanent or temporary obstruction (window, wall, hedge, etc.) less than 3 metres away.

## 2.2 Installing the appliance

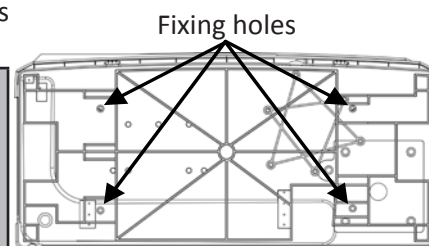
- **install on a stable, solid surface** (concrete slab for example) which is level,
- protect from risks of flooding due to condensates from the appliance when it is running.



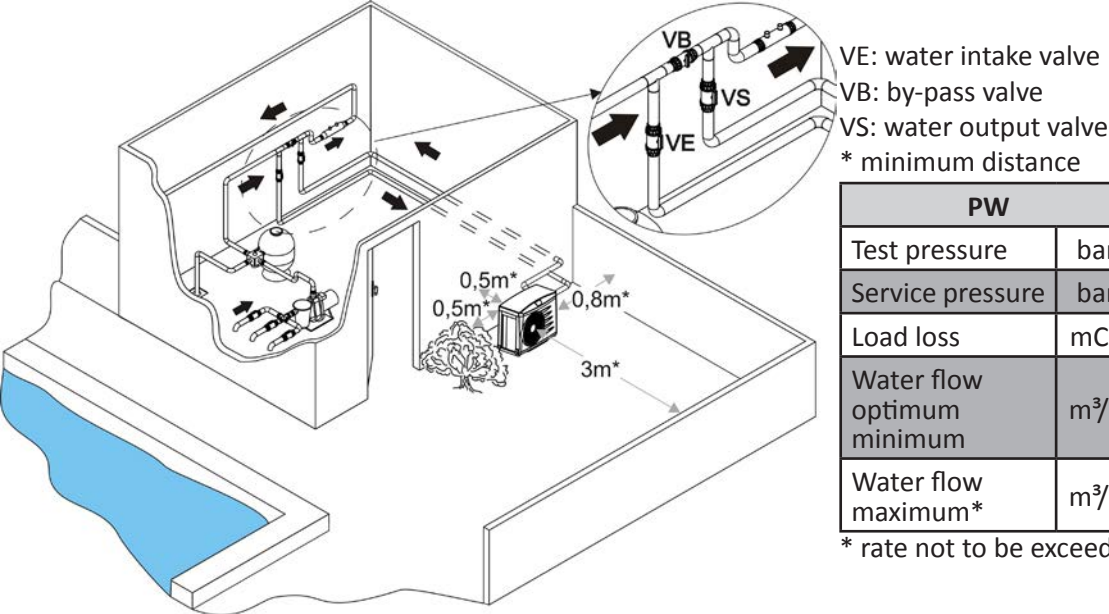
The anti-vibration pads are built into the heat pump base.

The appliance can be fixed to the ground using the holes in the appliance base, or using rails (not supplied). It is also possible to fix the appliance to brackets (not supplied).

A drilling diagram is available on the back of the packaging box.



2.3 Hydraulic connections



PW		5M	7M	9M	11M
Test pressure	bar	6			
Service pressure	bar	1.5			
Load loss	mCE	1	1	1.5	1.5
Water flow optimum minimum	m³/h	4	6	8	8
Water flow maximum*	m³/h	10			

\* rate not to be exceeded



Follow the hydraulic connection direction (see § «Sizes» in the appendix).

- The connection will use Ø40 piping, or Ø50 using the supplied adapter (see §1.2), use the half-union fittings to connect to the pool filtering circuit, after the filter and before water treatment.
- Installing a by-pass is mandatory and facilitates operations on the appliance.
- Adjust the water flow using valve VB, and leave valves VE and VS open.
- Make sure the hydraulic fittings are correctly tightened and that there are no leaks.



Condensate drainage: warning, your appliance can release several litres of water per day; it is highly recommended to connect the drainage to the drains.  
Connect an interior Ø15 pipe (not supplied) to the corrugated angle to be fitted under the appliance base (supplied, see §1.2).

2.4 Electric connections

2.4.1 Voltage and protection

- The appliance is designed for connection to mains electricity using a neutral TT and TNS wiring,
- Electric protection: using a circuit breaker (D curve) or a fuse (Am) (calibre 16A), with a 30 mA ground fault circuit breaker at the head of the line (circuit breaker or switch).

PW 5M-7M-9M

- connect the power cord supplied with the appliance to a 16A socket complying with the standards and regulations in force in the country where it is installed,
- extension cords and adapters must not be used,
- If the power supply cable is not long enough, contact a qualified technician.

PW 11

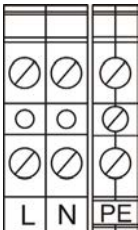
- the electrical supply of the appliance must come from a protection and switching device (not supplied) complying with the standards and regulations in force in the country,
- the electrical supply cable must not be exposed to elements that are sharp, hot or represent a crush hazard,
- check that all cables are secure and all terminal connections are correct.



Acceptable voltage variation: -10%, +7% (while running).

2.4.2 Connections

- Check the strength of the power supply cable on the connection terminal block



phase (L) + neutral (N) + Ground (PE)



- Loose terminals can cause the terminal block to heat and lead to the warranty being voided.
- It is imperative to connect the appliance to an earth rod.
- Risk of electric shocks inside the appliance.
- Only a qualified and experienced technician is authorised to wire inside the appliance.
- If the power supply cable is damaged it should be replaced by a qualified technician.









### 2.4.3 Cable size

- Power supply cable size: for a maximum length of 20 metres (calculation on the basis of: NFC 15-100), must be checked and suitable for the installation conditions.

PW	Voltage	I Maximum absorbed	Cable cross section		Electric protection
		A	mm <sup>2</sup>		A
5M	230V-50Hz	5.2	3x1.5	3G1.5	16
7M	230V-50Hz	8.7	3x1.5	3G1.5	16
9M	230V-50Hz	12.4	3x2.5	3G2.5	16
11M	230V-50Hz	15.5	3x2.5	3G2.5	20

## 3. Use

### 3.1 Presentation of the regulation

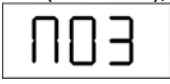
	Symbol	Meaning	Fixed	Flashing	Off
		Water flow	Water flow correct	Water flow too low or absent	/
		Heating	Active	Starting up	Inactive
		Ambient air temperature	Sufficient	Insufficient	/
		Optional external heat pump or heating priority connected	Option connected and running to achieve heating set point	Option connected but with no heating set point	Option not connected
		Fault	Fault detected, see §5	External pump or heating priority connected, running to reach set point but water flow too low or missing	No fault
		«On/Off» button			
	<b>SET</b>	Pool water temperature reading and parameter setting button			
		Value adjustment buttons			

### 3.2 Checks before commissioning


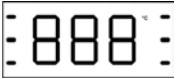
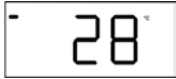


- Correct tightening of hydraulic fittings,
- Good stability (appliance level and vertical),
- The electric power supply cable must be isolated from all sharp or hot elements that could damage or crush it.

### 3.3 Starting up the appliance

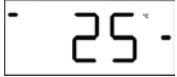
- Start up water circulation and adjust the valves (see §2.3),

- Connect the heat pump electricity supply:  (programme version n° different depending on the model)

then ,

- **Powering on:** press  for 2 seconds:  then  by default the screen displays the set point temperature,
- The appliance starts after a timer that can last up to 5 minutes,
- **Set the required temperature** (so-called «set point»): when the heat pump is running, press  or  to set the temperature.

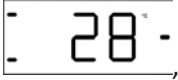
- Possibility of reading the water temperature: when water is flowing through the heat pump, press **SET**:






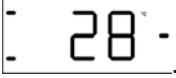
flashes 10 seconds then the fixed temperature set point is displayed,

- Possibility of locking the keyboard:

- Keyboard lock: press  and  at the same time for 3 seconds:  appears for 3 seconds, then:

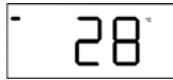


- Unlocking the keyboard: press  and  at the same time for 3 seconds:  flashes for 4 seconds,

then: .

### 3.4 Checks to carry out once the appliance is running


After the heat pump commissioning steps, temporarily shut off the water flow to check that your appliance shuts down

after a few seconds (by triggering the flow meter): the water flow  indicator should flash.

### 3.5 Wintering



**Wintering is imperative, failure to do so exposes the condenser to a risk of freezing, this situation is not covered by the warranty. To avoid condensation damaging the appliance, do not cover it hermetically.**

- Power off the heat pump by pressing  for 2 seconds and then disconnect it from the power supply,
- Make sure there is no water flow in the heat pump,
- Drain the water condenser (risk of freezing) by unscrewing the two pool water intake and discharge fittings behind the heat pump,
- In the event of full pool wintering: screw the two fittings back on a full turn to avoid foreign bodies from entering the condenser,
- If wintering the heat pump only: do not screw the fittings back on, instead fit 2 caps (supplied) to the condenser water intake and discharge.
- Install a micro ventilated wintering cover on the heat pump (accessory available as an option).

EN

## 4. Maintenance

### 4.1 Maintenance instructions



**It is recommended to carry out general servicing of the appliance on wintering and recommissioning, in order to check it is in good working order and maintain its performances, as well as to prevent certain possible defects.**

**These actions are the user's responsibility and must be carried out by a technician.  
Do not use high pressure cleaners.**

- Make sure that no foreign bodies block the ventilation grate.
- Clean the evaporator (for the location see § «Size» in the appendices) using a flexible brush and a clean water hose (disconnect the power supply), do not bend the metal heat sinks, the clean the condensate drainage pipe to remove any dirt that may be obstructing it.
- Clean the outside of the appliance, do not use solvent based products,
- Check that the regulation is in working order.
- Check that the condensates are draining correctly when the appliance is running.
- Check that the regulation is in working order.
- Check the safety devices.
- Check that metal casing is connected to the earth.
- Check the tightness of the electric wire connections and the cleanliness of the control box.

### 4.2 Additional recommendations

Relative to pressurised appliances (PED-97/23/EC)

#### 4.2.1 Installation and maintenance

- It is prohibited to install the appliance close to combustible materials or close to the air intake on an adjacent building.
- For some appliances it is imperative to use the protection grate accessory if the installation is located in an unregulated access area.
- During installation, repair, or maintenance operations it is prohibited to use piping as a step ladder: under stress the piping could rupture and the coolant could cause serious burns.
- During maintenance of the appliance the composition and condition of the heat transporting fluid will be checked as will the absence of traces of coolant.
- During the annual appliance seal inspection in compliance with applicable regulations, check that the high and low pressure switches are correctly connected to the refrigeration circuit and that they cut the electric circuit when triggered.



- During the maintenance phase make sure there are no traces of corrosion or oil stains around the refrigerating components.
- Before any operations on the refrigerating circuit it is imperative to shut down the appliance and to wait a few minutes before fitting temperature or pressure sensors. Some equipment such as the compressor and piping can reach temperatures in excess of 100°C and high pressures which can cause serious burns.

#### 4.2.2 Repairs

- All welding operations are to be carried out by qualified welders
- Piping can only be replaced using copper tube in compliance with NF EN 12735-1 standard.
- Leak detection, pressure test:
  - never use oxygen or dry air, there is a risk of fire and explosion,
  - use dehydrated nitrogen or a mixture of nitrogen and the coolant indicated on the identification plate,
  - the test pressure on the low and high pressure sides must not exceed 42 bar.
- For the high pressure circuit piping using copper pipes of a diameter = or > than 1"5/8, a §2.1 certificate under standard NF EN 10204 is to be requested from the supplier and kept with the installation technical documents.
- The technical information relative to the safety requirements for the different applicable directives is indicated on the identification plate. All this information must be recorded on the appliance installation manual which must be part of the installation technical file: model, code, serial number, maximum and minimum service voltage and service pressure, year of manufacture, CE marking, manufacturer's address, coolant type and weight, electric parameters, thermodynamic and acoustic performances.

#### 4.3 Recycling



This symbol means that your appliance must not be disposed of as household waste. It will be subject to selective waste sorting with a view to its reuse, recycling or sale. If it contains substances that are potentially harmful to the environment, they will be eliminated or neutralised.  
Ask your reseller for information about recycling.

### 5. Troubleshooting

#### 5.1 Displays

Symbol	Meaning	Cause	Solution
E02	Air temperature sensor fault	Sensor out of order or incorrectly connected	Replace the sensor, contact your reseller or a qualified technician
E03	Defrosting sensor fault	Sensor out of order or incorrectly connected	Replace the sensor, contact your reseller or a qualified technician
E04	Low pressure fault	Gas leak on the refrigerating circuit	Contact your reseller or a qualified technician
E05	High pressure fault	<ul style="list-style-type: none"> <li>• No water flow or defective flow controller</li> <li>• Water temperature too high (32°C maximum, 30°C with Easy Connect)</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Check the water flow or contact your reseller or a qualified technician</li> <li>• Wait for the temperature to drop</li> <li>• Contact your reseller or a qualified technician</li> </ul>
E06	Water temperature sensor fault	Sensor out of order or incorrectly connected	Replace the sensor, contact your reseller or a qualified technician
E07	Defrosting cycle fault (>20 minutes)	<ul style="list-style-type: none"> <li>• Air temperature too low</li> <li>• The ventilator is out of order</li> <li>• The evaporator is dirty</li> <li>• Air or defrosting temperature incorrect</li> </ul>	<ul style="list-style-type: none"> <li>• Wait for the temperature to come within the operating range</li> <li>• Contact your reseller or a qualified technician</li> <li>• Clean the evaporator (see §4.1)</li> <li>• Contact your reseller or a qualified technician</li> </ul>

#### 5.2 Appliance malfunctions

Malfunction	Possible causes	Solutions
The appliance is out of order	<ul style="list-style-type: none"> <li>• No display</li> <li>• The pool temperature is above the set point temperature</li> <li>• There is a message on the screen</li> <li>• Water flow absent or incorrect</li> </ul>	<ul style="list-style-type: none"> <li>• Check the power supply voltage and fuse F1</li> <li>• Increase the set point temperature</li> <li>• Check the meaning of the message in §5.1</li> <li>• Check the water flow (by-pass, filtering)</li> </ul>
The ventilator is running but the compressor stops from time to time without any error messages	<ul style="list-style-type: none"> <li>• The heat pump occasionally performs defrosting cycles</li> <li>• The evaporator is dirty</li> </ul>	<ul style="list-style-type: none"> <li>• Normal if the outside temperature is less than 12°C</li> <li>• Clean the evaporator</li> </ul>



Malfunction	Possible causes	Solutions
<b>The appliance is working but the water temperature does not rise</b>	<ul style="list-style-type: none"> <li>Insufficient filtering time</li> <li>Usage period not compliant</li> <li>The heat pump is undersized</li> <li>The automatic pool filling is blocked in the open position</li> <li>The heat insulated cover is not used</li> <li>The evaporator is dirty</li> <li>The appliance is incorrectly located</li> <li>There is a message on the screen</li> </ul>	<ul style="list-style-type: none"> <li>Switch the filtering to manual 24h/24 for the temperature rise</li> <li>Check that the outside temperature is compliant with the operating range (see §1.3)</li> <li>Check the heat pump specifications for the pool</li> <li>Check that automatic filling is in working order</li> <li>Position the heat insulated cover</li> <li>Clean the evaporator (see §4.1)</li> <li>The appliance must be installed outside.</li> <li>Check that there are no obstacles at less than 4 metres from the blower, and 0.50 metres behind the heat pump (see §2)</li> <li>Check the meaning of the message §5.1</li> </ul>
<b>The heat pump is tripping the circuit breaker</b>	<ul style="list-style-type: none"> <li>The circuit breaker is incorrectly or wrongly sized</li> <li>The cable size is undersized</li> <li>The supply voltage is too low</li> </ul>	<ul style="list-style-type: none"> <li>Check the circuit breaker (see § 2.4.3)</li> <li>Check the cable size (see §2.4.3)</li> <li>Contact your electricity supplier</li> </ul>



### 5.3 FAQ

<b>Is it possible to improve the temperature rise?</b>	To improve the efficiency of your heat pump it is recommended to:	<ul style="list-style-type: none"> <li>Cover the pool using a cover (bubble cover, shutter, etc.) to avoid heat losses.</li> <li>Take advantage of a period when outside temperatures are warm (on average &gt; 10°C), to guarantee easier temperature rises (this can take several days, its duration can vary depending on weather conditions and the heat pump sizing).</li> <li>The hotter the surrounding air, the more the heat pump will be effective.</li> <li>Keep the evaporator clean.</li> </ul>
	Check that the filtering time is sufficient	<ul style="list-style-type: none"> <li>During the temperature rise phase, water circulation must be continuous (24*7).</li> <li>To maintain the temperature throughout the season, switch to «automatic» circulation at least 12h/day (the longer this period, the more the heat pump will have a sufficient operating range to warm).</li> </ul>
	Setting the set point to the maximum will not heat the water quicker.	
<b>Why doesn't my heat pump heat?</b>	<ul style="list-style-type: none"> <li>On start-up the appliance stays in «pause» for 30 seconds before starting: check that this time has elapsed.</li> <li>When the set point temperature is reached, the heat pump stops heating: check that the water temperature is less than the set point (see §3.3)</li> <li>When the water flow is nil or insufficient, the heat pump stops: check that the water is flowing correctly through the heat pump and that the hydraulic fittings have been installed correctly.</li> <li>When the outside temperature drops below 7°C, the heat pump stops: check the outside temperature.</li> <li>The heat pump may have detected an operating fault: check for a code displayed on the screen, if there is one refer to §5.1.</li> <li>If these points have been checked and the problem persists: contact your reseller.</li> </ul>	
<b>My appliance is draining water: Is this normal?</b>	<ul style="list-style-type: none"> <li>Your appliance drains water in the form of condensates. This water is the humidity from the air that condenses when in contact with some of the cold components of the heat pump.</li> <li>Warning: your appliance can drain several litres of water per day.</li> </ul>	
<b>Where should my water treatment system be located relative to the heating system?</b>	<ul style="list-style-type: none"> <li>The water treatment system (chlorinator, salt water chlorinator, etc.) must be installed preferably downstream from the heat pump (see location §2.3) and be compatible with it (contact the manufacturer)</li> </ul>	

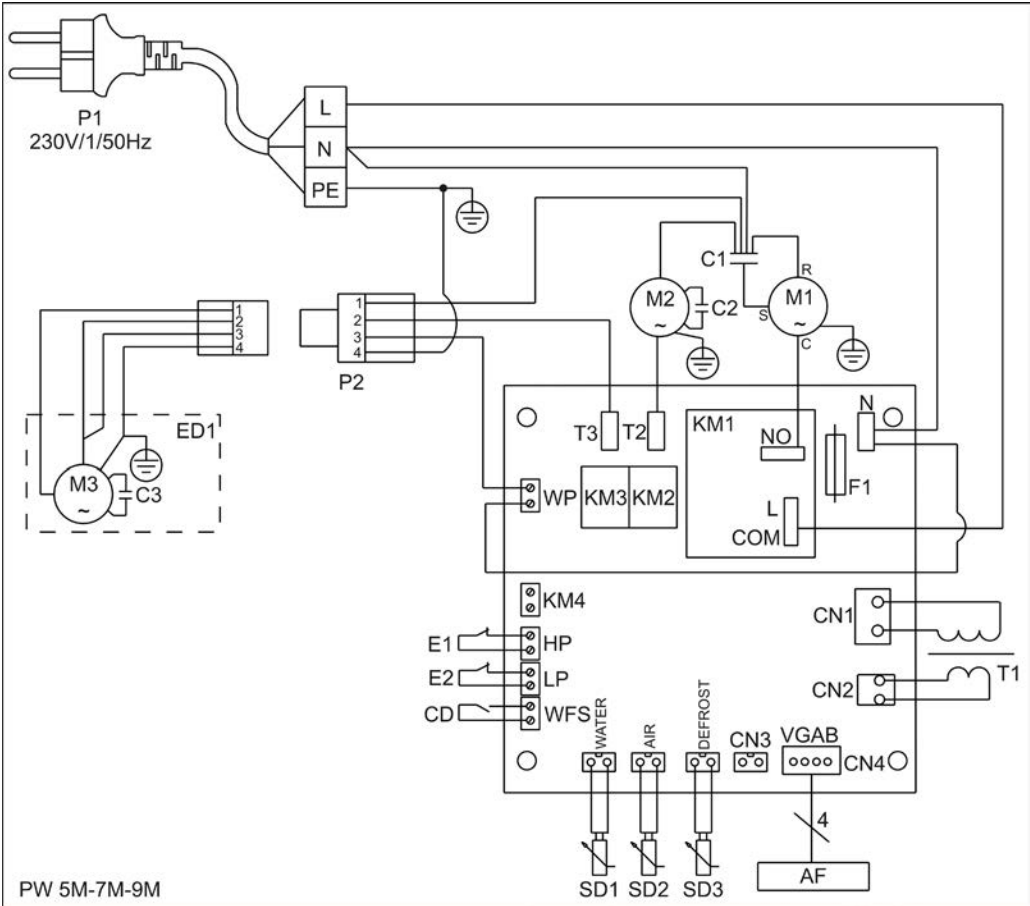
## 6. Registering the product

Register your product on our website:

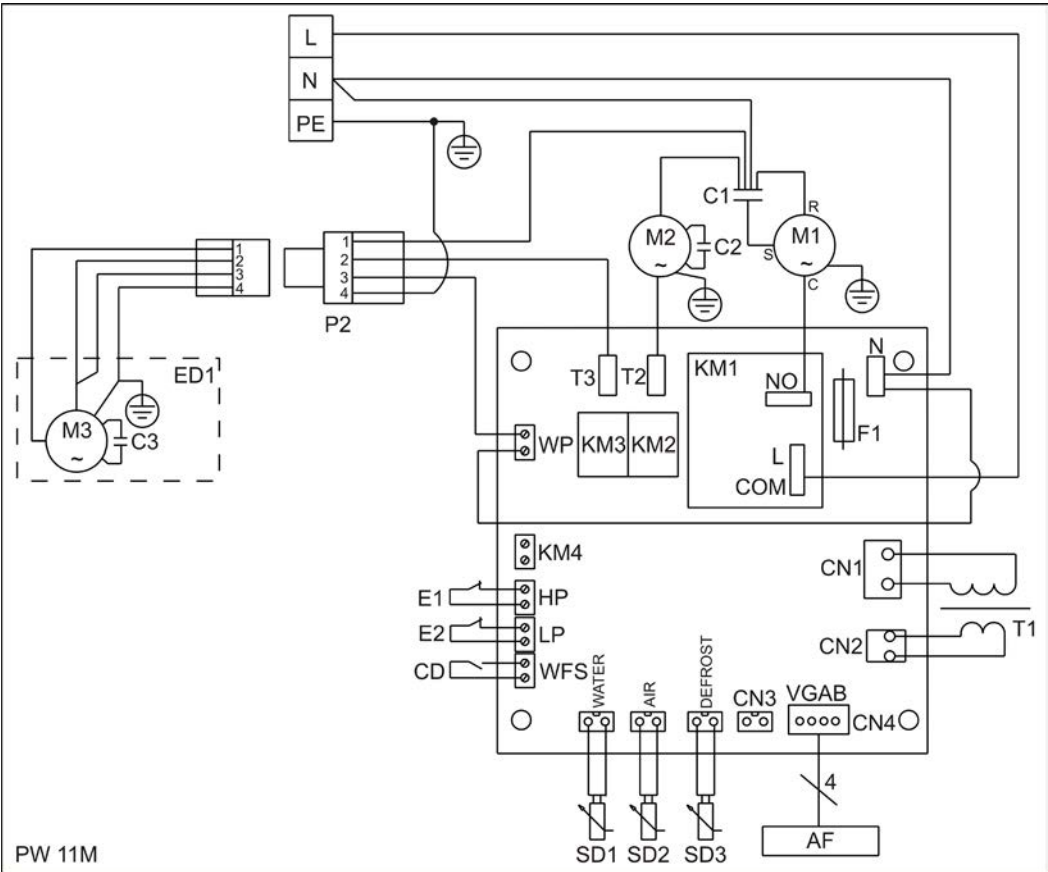
- be the first to be informed of new Zodiac® products and special offers,
- help us to constantly improve our product quality.


Europe & Rest of the World	<a href="http://www.zodiac-poolcare.com">www.zodiac-poolcare.com</a>	
America	<a href="http://www.zodiacpoolsystems.com">www.zodiacpoolsystems.com</a>	
Australia – Pacific	<a href="http://www.zodiac.com.au">www.zodiac.com.au</a>	

Electric diagram

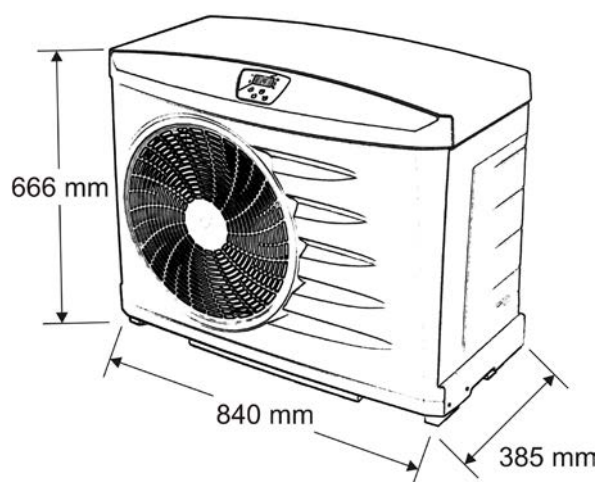


PW 5M-7M-9M	P1	PW 11M	L-N-PE
Power supply 230V-1N-50Hz			



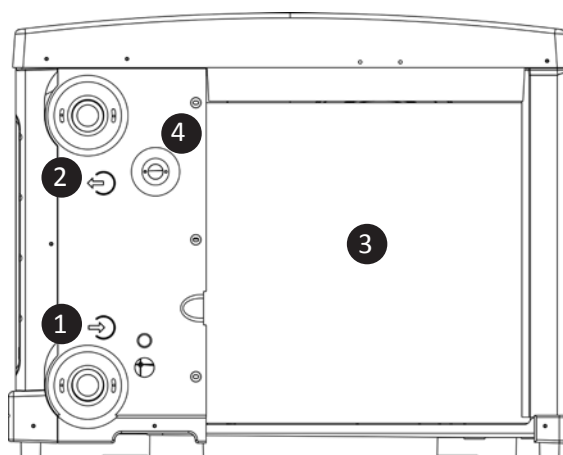
AF	Digital display	KM2	Fan relay
	Earth	KM3	Auxiliary pump relay
C1	Compressor capacitor	KM4	Complementary relay
C2	Fan capacitor	M1	Compressor
C3	Auxiliary pump capacitor	M2	Fan
CD	Flow rate controller	M3	Auxiliary pump
E1	High pressure switch	P2	Auxiliary pump connector
E2	Low pressure switch	SD1	Water temperature sensor
ED1	Auxiliary pump	SD2	Air temperature sensor
F1	Fuse	SD3	Defrost sensor
KM1	Compressor relay	T1	Transformer

## Dimensions



PW	Weight (Kg)
5M	45
7M	47
9M	48
11M	51

## Description



1	Pool water inlet
2	Pool water outlet
3	Evaporator
4	Auxiliary pump connector

**[www.zodiac-poolcare.com](http://www.zodiac-poolcare.com)**

Pour plus de renseignements, merci de contacter votre revendeur.  
For further information, please contact your retailer.

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